

CLAIMS

1. Textile structure resistant to perforation, especially for shoe soles, characterized by the fact of comprising one or more layers of woven aramidic fibers and one or more layers of high tenacity woven non-aramidic fibers, said layers being bonded together by means of thermoplastic film, each individual woven layer being treated, preferably on the right side, by coating with a polyurethane and/or acrylic resin enriched with powders of hard and abrasive materials.
2. Textile structure according to claim 1, wherein said hard and abrasive materials are ceramic materials, preferably micronized and in the form of silicates.
3. Textile structure according to claim 2, wherein said micronized ceramic materials are aluminum silicates.
4. Textile structure according to one of the claims from 1 to 3, wherein a multilayer structure includes a first layer of a woven fabric made of aramidic fibers and, stacked on the first layer, three layers of a woven fabric made of high tenacity polyester fibers, the layers being bonded together by means of thermoplastic film and at least one side of each layer being provided with a surface ceramic treatment.
5. Textile structure according to claim 4, wherein the layer of aramidic fabric and the adjacent layer of polyester fabric have the treated surfaces placed in contact, the remaining layers of polyester fabric having the treated surface in contact with the untreated surface of the adjacent layer.
6. Textile structure according to claim 4, wherein not more than 15-20% by weight of the total by weight of the textile fibers used consists of aramidic fibers.
7. Textile structure according to claim 5, wherein:
 - the fabric in aramidic fibers is a plain weave fabric having warp yarns in aramidic fibers, specifically Kevlar ® 730 dtex, 19 yarns per cm, and weft yarns in aramidic fiber, specifically Kevlar ® 730 dtex, 15 yarns per cm, coated on the right side with 90-120 gr/sq.mt. of a compound consisting of 50% polyurethane resin, 25% acrylic resin, 25% aluminum silicate;
 - the fabric in polyester fiber is a compound weave fabric, made up of two simple weaves 3X3, with the warp and weft yarns in polyester H.T. 1100 dtex, 22 per cm

and 29 per cm respectively, and is coated on one side with said compound.

8. Structure according to one of the claims from 4 to 7, wherein electrically conductive wires are inserted in the fabric in aramidic fibers and in the fabric in high tenacity non-aramidic fibers composing said multilayer structure.

5 9. Textile structure according to one of the claims from 1 to 3, wherein the layers of fabric in aramidic fibers are individually alternated with those in high tenacity non-aramidic fibers.

10 10. Textile structure according to one of the claims from 1 to 3, wherein two multilayer structures of fabric are bonded, one consisting of three stacked layers of a woven fabric in aramidic fibers treated on the surface with a ceramic coating and the second consisting of three layers of a woven fabric in high tenacity polyamide fibers treated on the surface with a ceramic coating.

15 11. Textile structure according to claim 10, wherein two adjacent layers of fabric in aramidic fibers or two adjacent layers of fabric in polyamide fibers, or the two adjacent layers of the multilayer structures have the treated surfaces in contact, the external surfaces on the top and bottom of the structure being not treated.

12. Textile structure according to claim 10, wherein not more than 50-60% by weight of the total weight of the textile fibers used consists of aramidic fibers.

13. Textile structure according to claim 10, wherein:

- 20 - the fabric in aramidic fibers is a plain weave fabric, having the warp yarns in aramidic fiber, specifically Kevlar ® 730 dtex, 19 yarns per cm and weft yarns in aramidic fiber, specifically Kevlar ® 730 dtex, 15 yarns per cm, coated on the right side with 90-120 gr/sq.mt. of a compound consisting of 50% polyurethane resin, 25% acrylic resin, 25% aluminum silicate;
- 25 - the fabric in polyamide fibers is a weft rep weave fabric, having warp yarns in high tenacity polyamide 6:6 fiber, 200 dtex, taslanized, 62 per cm, and weft yarns in high tenacity Nylon 6:6, 636 dtex, taslanized, 16.5 per cm., coated on the right side with 60 gr/sq.mt. of said compound.

30 14. Structure according to claim 1, wherein the aforementioned thermoplastic films are made of polyester which resists to high temperatures.

15. Use of a textile structure resistant to perforation, according to one of the preceding claims, as a protective insert into the soles of footwear.
16. Use of a textile structure resistant to perforation, according to one of the claims from 1 to 14, in the production of footwear in which the sole is directly produced on the upper by injection molding, as an insole that is first sewn to the upper of the footwear.